

SPECIFICATION

Please replace paragraph [75] with the following amended paragraph:

Some representative examples of leads 16 and 18 include MEDTRONIC stimulation lead model numbers 3080, 3086, 3092, 3487, 3966 and 4350 as described in the MEDTRONIC Instruction for Use Manuals ~~[[thereof, all hereby incorporated by reference herein, each in its respective entirety]]~~. Additional suitable leads include Medtronic's Pisces leads, Resume leads, as described in the MEDTRONIC Instruction for Use Manuals thereof, all hereby incorporated by reference herein, each in its respective entirety; and other custom builds such as cuff electrodes as described in US Patent No. ~~[[5344437]]~~ 5344438 (Testerman, Medtronic), which is hereby incorporated by reference in its entirety. See also Figures 7B through 7F hereof, which disclose various embodiments of leads 16 and 18 suitable for use in accordance with the present invention. IPG 101 may also be constructed or operate in accordance with at least some portions of the implantable IPGs 101 disclosed in U.S. Patent No. 5,199,428 to Obel et al., U.S. Patent No. 5,207,218 to Carpentier et al. or U.S. Patent No. 5,330,507 to Schwartz, all of which are hereby incorporated by reference herein, each in its respective entirety. Electric probes such as those currently available through Medtronic or a custom built probe may be used. Lead locations and electrode configurations other than those explicitly shown and described here are of course possible and contemplated in the present invention. Lead anchors 19 are shown in Figure 7C as a series of tines.

Please replace paragraph [76] with the following amended paragraph:

Some representative examples of pulse generators 101 include MEDTRONIC implantable electrical IPG model numbers 3023, 7424, 7425 Itrcl, 7427 Synergy and Medtronic Model 3625 Test stimulator as described in the Instruction for Use Manuals ~~[[thereof, all hereby incorporated by reference herein, each in its respective entirety]]~~.

Please replace paragraph [83] with the following amended paragraph:

Figures 7B through 7F show various embodiments of the distal end of lead 16 of the present invention. In Figures 7B and 7E, lead 16 is a paddle lead where electrodes 21-24 are arranged along an outwardly facing planar surface. In Figure 7C, lead 16 is a conventional quadrapolar lead having no pre-attached anchoring mechanism where electrodes 21-24 are cylindrical in shape and extend around the circumference of the lead body. In Figure 7D, lead 16 is a quadrapolar lead having tined lead anchors. The tines may be formed from flexible or rigid biocompatible materials in accordance with the application at hand. Representative examples of some tined and other types of leads suitable, adaptable or modifiable for use in conjunction with the systems, methods and devices of the present invention include those disclosed in U.S. Patent Application Nos. 10/004,732 entitled "Implantable Medical Electrical Stimulation Lead Fixation Method and Apparatus" and 09/713,598 entitled "Minimally Invasive Apparatus for Implanting a Sacral Stimulation Lead" to Mamo et al., and those disclosed in U.S. Patent No. 3,902,501 to Citron entitled "Endocardial Lead," U.S. Patent No. 4,106,512 to Bisping entitled "Transvenously Implantable Lead," and U.S. Patent No. 5,300,107 to Stokes entitled "Universal Tined Myocardial Pacing Lead." In Figure 7D, lead 16 is a quadrapolar lead having a pre-attached suture anchor. In Figure 7E, lead 16 comprises needle anchor/electrode 19/20 disposed at its distal end and suture anchor 19. Figure 7F shows lead 16 as a tri-polar cuff electrode, where cuff/anchor 19 is wrapped around desired nerve or nerve portion 8 to thereby secure the distal end of lead 16 to the nerve and position electrodes 20-22 against or near nerve or nerve portion 8. The Medtronic Model No. 3995 cuff electrode lead is one example of a lead that may be adapted for use in the present invention, the Instructions for Use manual of which entitled "INTERSTIM Manual: Model 3995 Implantable bipolar peripheral nerve and spinal root stimulation lead" [~~is hereby incorporated by reference herein in its entirety~~].

Please replace paragraph [94] with the following amended paragraph:

If it is desirable to administer more than one therapeutic agent, the composition within the reservoir 12 may contain a second, third, fourth, etc. therapeutic agent. Alternatively, the drug pump device 30 may have more than one reservoir 12 for housing additional compositions comprising a therapeutic agent. When the device 30 has more than one reservoir 12, the pump 40 may draw fluid from the one or more reservoirs 12 and deliver the drawn fluid to the catheter 38. The drug pump device 30 may contain a valve coupled to the pump 40 for selecting from which reservoir(s) 12 to draw fluid. Further, one or more catheters 38 may be coupled to the drug pump device 30. Each catheter 38 may be adapted for delivering a therapeutic agent from one or more reservoirs 12 of the device 30. A catheter 38 may have more than one lumen. Each lumen may be adapted to deliver a therapeutic agent from one or more reservoirs 12 of the pump 40. It will also be understood that more than one implantable device 30 may be used if it is desirable to deliver more than one therapeutic agent. Such drug pump devices, catheters, and systems include those described in, for example, copending application Serial No. [[10/245,963]] 10/746,269, entitled IMPLANTABLE DRUG DELIVERY SYSTEMS AND METHODS, filed on December 23, 2003, which application is hereby incorporated herein by reference.

Please replace paragraph [115] with the following amended paragraph:

In an embodiment, sensor 300 may detect the amount of neurotransmitter 154 released from a stimulated sympathetic nerve. The amount of neurotransmitter 154 released may be measured by determining the amount or level of the neurotransmitter 154 or its metabolites at the nerve terminal, within the region of the nerve terminal, systemically, at the site of desired neurotransmitter 154 action, and/or at any site that is apparent to a clinician practicing one or more embodiments of the invention. Means for detecting the level of neurotransmitter 154 include an electrode with an ion selective coating applied which is capable of directly transducing the amount of a particular transmitter substance or its metabolic by-products. An example of this type of transducer is described in the

paper "Multichannel semiconductor-based electrodes for in vivo electrochemical and electrophysiological studies in rat CNS" by Craig G. [~~van Home~~] van Horne, Spencer Bement, Barry J. Hoffer, and Greg A. Gerhardt, published in Neuroscience Letters , 120 (1990) 249-252.